

ke, Pl. Life 2: 90. 1948; Moldenke, Alph. List Cit. 2: 487 (1948), 3: 867 & 929 (1949), and 4: 1043. 1949; Moldenke, Known Geogr. Distrib. Verbenac., ed. 2, 43 & 178. 1949; Alain in León & Alain, Fl. Cuba 4: 304 & 306-307. 1957; Moldenke, Résumé 50 & 445. 1959; Moldenke, Phytologia 14: 187. 1966; J. A. Clark, Card. Ind. Gen. Sp. Var. n.d.

The species has been collected in anthesis in July and December. The León, Clément, & Nestor 5380, cited below, is a mixture with C. ferruginea Sw.

In all, 9 herbarium specimens, including the type, and 5 mounted photographs of C. wrightii have been examined by me.

Additional & emended citations: CUBA: Oriente: Acuña 9869 (Es, Es); Clément 441 (Ha); León, Clément, & Nestor 5380, in part (Ha), 5599 (Ha); Shafer 4235 (Mi--photo, W-1047819).

ADDITIONAL NOTES ON THE GENUS ACANTHOLIPPIA. II

Harold N. Moldenke

ACANTHOLIPPIA Griseb.

Additional bibliography: Solered., Syst. Anat. Dicot. 712. 1899; Briq. in Chod. & Wilczek, Bull. Herb. Boiss., sér. 2, 2: 544. 1902; D. H. Scott in Solered., Syst. Ahat. Dicot. [trans. Boodle & Fritsch] 1: 630. 1908; Reiche, Fl. Chile 5: 299-301. 1910; Pereyra, Bol. Univ. Tucumán 8: 3-13. 1926; Ducloux & Albizzatti, Revist. Fac. Cienc. Quim. Univ. Nac. La Plata 4: 47-56. 1927; Pereyra, Chem. Abstr. 22: 138. 1928; Ducloux & Albizzatti, Chem. Zentr. 2: 1970. 1928; Schimmel & Co., Ann. Rep. 65. 1928; Schimmel & Co., Chem. Abstr. 22: 3951. 1928; Fester & Martinuzzi, Anal. Asoc. Quim. Arg. 40: 36-60. 1952; Fester & Martinuzzi, Chem. Abstr. 46: 11586-11587. 1952; Fester & al., Revist. Fac. Ind. & Agr. Univ. Nac. Litoral Santa Fé Arg. 21/22: 43-84. 1952; Fester & al., Chem. Abstr. 48: 6655-6656. 1954; Cabrera, Revist. Invest. Agric. 11: 327, 336, & 397. 1957; Fester, Martinuzzi, Retamar, & Ricciardi, Bol. Acad. Nac. Cienc. 40: 189. 1958; Ruiz Leal & Roig, Bol. Estud. Geogr. Mendoza 25: 170-171. 1959; Fester, Martinuzzi, Retamar, & Ricciardi, Chem. Abstr. 54: 12496. 1960; Burkart, Excerpt. Bot. A.2: 604. 1960; Fester, Martinuzzi, Retamar, Ricciardi, Romero Fonseca, & Cassano, Revist. Fac. Cienc. Agrar. Mendoza 8 (2): [45], 46, & 49. 1961; Ruiz Leal, Bot. Estud. Geograf. Mendoza 8 (32): 105, fig. A. 1961; Kariyone, Ann. Ind. Rep. Pl. Chem. 1959: 94. 1962; Hocking, Excerpt. Bot. A.4: 224. 1962; Böcher, Hjerting, & Rahn, Dansk Bot. Arkiv 22: 105. 1963; Anon., Hortic. Abstr. 35: 444. 1965; Troncoso in Cabrera, Fl. Prov. Buenos Aires 5: 123. 1965; Moldenke, Phytologia 15: 463-470. 1968; Böcher, Hjerting, & Rahn, Dansk Bot. Arkiv 22: 171. 1968; Moldenke, Biol. Abstr. 49: 3252. 1968; Anon., Biol. Abstr. 49 (7): B. A. S. I. C. S. 3. 1968;

Hocking, Excerpt. Bot. A. 13: 570. 1968; Moldenke, Résumé Suppl. 16: 6, 14, 23, & 24. 1968; Anon., Torr. Bot. Club Ind. Am. Bot. Lit. 3: 309. 1969; Farnsworth, Blomster, Quimby, & Schermerh., Lynn Index 6: 263, 265, & 266 (1969) and 7: 227. 1971; Heusser, Pollen & Spores Chile 62 & 81, pl. 59-676. 1971.

Troncoso (1965) describes this genus as "Nativa de las regiones áridas de la Argentina, Chile y Bolivia. Especie tipo: A. salsoloides Gris. [actualmente A. deserticola (Phil.) Mold.]." In Phytologia 7: 328 (1961), as monographer of the genus, I designated A. hastulata Griseb. as type species of the genus.

ACANTHOLIPPIA DESERTICOLA (R. A. Phil.) Moldenke

Additional bibliography: Cabrera, Revist. Invest. Agric. 11: 397. 1957; Troncoso in Cabrera, Fl. Prov. Buenos Aires 5: 143. 1965; Moldenke, Phytologia 15: 464-466 & 470. 1968; Moldenke, Résumé Suppl. 16: 6, 14, & 23. 1968; Heusser, Pollen & Spores Chile 62, pl. 59-676. 1971.

Illustrations: Heusser, Pollen & Spores Chile pl. 59-676. 1971.

Cabrera (1957) records the vernacular name "rica-rica" for this species, recording it from Catamarca and Salta, referring to it as a nanophanerophyte, and citing Cabrera 8801, Cabrera & Schwabe 65, and Gerling 8. Heusser (1971) describes the pollen of this plant as "Monad, isopolar, radiosymmetric; tricolporate, colpi lengthy, narrow, constricted at the equator, pores transverse, short and narrow, not always clearly discernible; mostly subprolate and more or less triangular with sides concave; exine ca 1 μ thick, tectate, psilate, 26-31 x 22-29 μ ". He cites C. Böhme & R. González, Peine (Antofagasta), XII-1949, SGO 68321 and gives its natural distribution as "Cordillera in the provinces of Antofagasta and Atacama".

It has been collected in fruit in January. Material has been distributed in some herbaria as Verbena sp.

Additional citations: CHILE: Antofagasta: Zöllner 3076 (Ac). ARGENTINA: Catamarca: Jörgensen 1736 (W-2562148).

ACANTHOLIPPIA HASTULATA Griseb.

Additional bibliography: Pereyra, Bol. Univ. Tucumán 8: 3-13. 1926; Ducloux & Albizzatti, Revist. Fac. Cienc. Quim. Univ. Nac. La Plata 4: 47-56. 1927; Ducloux & Albizzatti, Chem. Zentr. 2: 1970. 1928; Schimmel & Co., Ann. Rep. 65. 1928; Pereyra, Chem. Abstr. 22: 138. 1928; Schimmel & Co., Chem. Abstr. 22: 3951. 1928; Fester & Martinuzzi, Anal. Asoc. Quim. Arg. 40: 36-60. 1952; Fester & Martinuzzi, Chem. Abstr. 46: 11586-11587. 1952; Fester & al., Revist. Fac. Ind. & Agr. Univ. Nac. Litoral Santa Fé Arg. 21/22: 43-84. 1952; Fester & al., Chem. Abstr. 48: 6655-6656. 1954; Cabrera, Revist. Invest. Agric. 11: 339, 343, 359, 369, & 397, fig. 1. 1957; Fester, Martinuzzi, Retamar, & Ricciardi, Bol. Acad. Nac. Cienc. 40: 189. 1958; Fester, Martinuzzi, Retamar, & Ricciardi, Chem. Abstr. 54: 12496. 1960; Kariyone, Ann. Ind. Rep. Pl. Chem. 1959: 94. 1960; Moldenke, Phytologia 15:

466--467. 1968; Farnsworth, Blomster, Quimby, & Schermerh., Lynn Index 6: 263 & 265. 1969.

Additional illustrations: Cabrera, Revist. Invest. Agric. 11: 339, fig. 1. 1957.

The flowers of this plant are described as "white" on Venturi 8300. Volatile oil and constants in this species are reported on by Ducloux & Albizzatti (1927), terpenes, alcohols, and aldehydes in volatile oil are reported on by Pereyra (1926), and d- an l- isothujone, thujone, and thujyl alcohol by Fester & Martinuzzi (1952).

Cabrera (1957) refers to the plant as a nanophanerophyte, records it from Jujuy and Salta, and cites Cabrera 7716, 8217, 8411, & 9016, Cabrera & Schwabe 48, Claren 11577, Fries 746, and Krapovickas 3126.

Additional citations: ARGENTINA: Jujuy: Venturi 8300 (N).

ACANTHOLIPPIA RIOJANA (Hieron.) Hieron. & Moldenke

Emended synonymy: Acantholippia riojana Hieron. ex Solered., Syst. Anat. Dicot. 712, homonym. 1899.

Additional bibliography: Solered., Syst. Anat. Dicot. 712. 1899; D. H. Scott in Solered., Syst. Anat. Dicot. [transl. Boodle & Fritsch] 1: 630. 1908; Moldenke, Phytologia 15: 467--468. 1968; Moldenke, Résumé Suppl. 16: 14 & 23. 1968.

ACANTHOLIPPIA SERIPHOIOIDES (A. Gray) Moldenke

Additional synonymy: Acantholippia seriphiooides (A. Gray) Miers ex Moldenke, Résumé 227, in syn. 1959. Acantholippia seriphiooides A. Gray ex Moldenke, Fifth Summ. 1: 377, in syn. 1971.

Additional bibliography: Briq. in Chod. & Wilczek, Bull. Herb. Boiss., sér. 2, 2: 544. 1902; Fester & al., Revist. Fac. Ind. & Agr. Univ. Nac. Litoral Santa Fé Arg. 21/22: 43--84. 1952; Fester & al., Chem. Abstr. 48: 6655--6656. 1954; Soriano, Revist. Invest. Agric. 10 (4): 330 & 347. 1956; Fester, Martinuzzi, Retamar, & Ricciardi, Bol. Acad. Nac. Cienc. 40: 189. 1958; Ruiz Leal & Roig, Bol. Estud. Geogr. Mendoza 25: 170--171. 1959; Fester, Martinuzzi, Retamar, & Ricciardi, Chem. Abstr. 54: 12496. 1960; Fester, Martinuzzi, Retamar, Ricciardi, Romero Fonseca, & Cassano, Revist. Fac. Cienc. Agrar. Mendoza 8 (2): [45], 46, & 49. 1961; Ruiz Leal, Bol. Estud. Geograf. Mendoza 8 (32): 105, fig. A. 1961; Kariyone, Ann. Ind. Rep. Pl. Chem. 1959: 94. 1962; Troncoso in Bocher, Hjerting, & Rahn, Dansk Bot. Arkiv 22: 105. 1963; Anon., Hortic. Abstr. 35: 444. 1965; Troncoso in Cabrera, Fl. Prov. Buenos Aires 5: 144--145, fig. 48. 1965; Bocher, Hjerting, & Rahn, Dansk Bot. Arkiv 22: 171. 1967; Moldenke, Phytologia 15: 468--469. 1968; Farnsworth, Blomster, Quimby, & Schermerh., Lynn Index 6: 263. 1969.

Illustrations: Ruiz Leal, Bol. Estud. Geograf. Mendoza 8 (32): 105, fig. A. 1961; Troncoso in Cabrera, Fl. Prov. Buenos Aires 5: 144, fig. 48. 1965.

Bocher and his associates (1968) refer to this plant as "A very important species in the lower part of the Atuel valley. It is

very fragrant, and its scent is distinct even on 8 years old herbarium specimens". He cites Böcher, Hjerting, & Rahn 794, 933, 1004, & 1095 and Hjerting & Rahn 3117 from Mendoza, Argentina, deposited in the Copenhagen herbarium; Wilczek & Chodat (1902) cite Wilczek 43, while Troncoso (1965) cites Cabrera 6650 and Spegazzini 3495 from Buenos Aires.

The vernacular name, "tomillo del campo", is reported by Troncoso, who states that the species is found in "Patagonia, oeste y centro del país. Habita en lomas rocosas de la zona árida del S. de la Provincia [Buenos Aires]". Collectors have found it growing in red or sandy soil, disturbed light gravel, and "wild land similar to that cleared for alfalfa cultivation, at the lowest irrigable level", in sandy-grassy regions of shrub-dunes, on hillsides with west exposure, and among Larrea vegetation. Semper refers to it as "aromatic" or "fragrant", Cabrera says "very fragrant", while Bartlett calls it "a very fragrant shrublet 1--1.5 feet tall with odor like lavender". Semper reports that it is used as tea and as a condiment. The corollas are described as "white" on Cabrera 10998, 11030, & 19430, Eyerdam, Beetle, & Grondona 24023, and Semper 118 & 617, and as "faintly purplish" on H. H. Bartlett 19936.

Fester and his associates (1952, 1958) report the presence of thymol, carvacrol, p-cymene, and citral in volatile essential oil in this plant, but "considerable variation was found in the composition of the essential oil" and possible contributory causes of these variations are discussed.

Additional citations: ARGENTINA: Buenos Aires: Cabrera & Fabris 16452 (Ip); O'Donell 1447 (N). Chubut: Kreibohm 178 (W-2568430); O'Donell 3239 (Gg-354415). La Pampa: H. H. Bartlett 19936 (Mi, N); Burkart 17486 (W-2567982), 19229 (N); O'Donell 1739 (N). Mendoza: H. H. Bartlett 19193 (Mi), 19430 (Mi), 19464 (Mi), 19478 (Mi); Cuezzo & Balegno 1992 (S); E. M. Garcia 451 (N); Lourteig 755 (N, Sd-37140); Reales 2011 (N), 2025 (N); Semper 118 (N), 617 (N). Neuquen: Cabrera 10998 (W-2567984), 11030 (W-2567973). Río Negro: O'Donell 1681 (N), 1933 (N). Santa Cruz: Eyerdam, Beetle, & Grondona 24023 (S); Herb. E. Wall 10 (Ew); O'Donell 3720 (Vi).

ACANTHOLIPPIA TRIFIDA (C. Gay) Moldenke

Additional bibliography: Fester & Martinuzzi, Anal. Asoc. Quim. Arg. 40: 36--60. 1952; Fester & Martinuzzi, Chem. Abstr. 46: 11586--11587. 1952; Fester & al., Revist. Fac. Ind. & Agr. Univ. Nac. Litoral Santa Fé Arg. 21/22: 43--84. 1952; Fester & al., Chem. Abstr. 48: 6655--6656. 1954; Moldenke, Phytologia 15: 465 & 469--470. 1968; Hocking, Excerpt. Bot. A.13: 570. 1968; Farnsworth, Blomster, Quimby, & Schermerh., Lynn Index 6: 263 & 266. 1969.

Fester and his associates (1952) report the presence of citronellol, thymol, palmitic acid, isovaleric acid, and a-terpinene

in volatile oil in the leaves of this plant.

ADDITIONAL NOTES ON THE GENUS VERBENA. VIII

Harold N. Moldenke

VERBENA [Dorst.] L.

Additional & emended synonymy: Berbena Macer Floridos, De Virib. Herb., pr. 1, ff. xxiiii--xxxv. 1477. Verbena Tourn. ex L., Gen. Pl., ed. 1, 334, [387], [400], & [402]. 1737; ed. 6, 14. 1764. Obletia LeMonnier ex Rozier, Introd. Obs. Phys. Hist. Nat. 1: 367. 1771. Glandularia J. F. Gmel. in L., Syst. Nat., ed. 13, 2 (2): 920. 1791 [not Glandularia J. Agardh, 1848, nor P. DC., 1836]. Uwarovia Lindl. ex Pfeiffer, Nom. Bot. 2 (2): 1544, in syn. 1874. Elissia Barkley, List Ord. & Fam. Anthophyta, ed. 2, 76 & 163, in syn. 1965. Aubletia LeMonnier ex Rozier apud Dandy, Ind. Gen. Vasc. Pl. 121, in syn. 1967. Vebrena Elliovson, Complete Gard. Book South. Hemisph., ed. 6, 37, sphalm. 1970. Aubletia LeMonnier ex Moldenke, Fifth Summ. 1: 391, in syn. 1971. Glandularia Gill. & Hook. ex Moldenke, Fifth Summ. 1: 523, in syn. 1971.

Additional & emended bibliography: Macer Floridos, De Virib. Herb., pr. 1, ff. xxiiii--xxxv. 1477; A. Macer, De Virtut. Herb., pr. 1, "k"--[ki]. 1506; Anguill., Sempl. 266. 1561; A. Macer, De Virtut. Herb., pr. 6, [t7], 133--135, 164, 167, & 199--200. 1581; Durante, Herb. Nuov., ed. Rom., 469. 1585; Matth., Pl. Epit. Util. 797. 1586; Pona, Pl. Simp. Bald. Mont. 3. 1595; Matth., Herb. Aneb Byliner 380--381. 1596; Lupton, Book Notable Things. 1660; Schroder, Chymic. Dispens. 1669; Lonic., Kreuterb., pr. 1, 310--311. 1679; Riven., Ord. Pl. Irreg. Monop. 81, pl. 56. 1690; Cupani, Hort. Cathol. 227. 1696; Tourn., Inst. Rei Herb., ed. 2, 2: 200, pl. 94. 1700; Tourn., Compl. Herb. 357--359 & 618. 1719; Tourn., Inst. Rei Herb., ed. 3, 2: 200, pl. 94. 1719; Hill., Hort. Eltham. 2: 406--408, pl. 300--302, fig. 387--389. 1732; L., Crit. Bot. 19, 89, 90, 111, & [306]. 1737; L., Gen. Pl., ed. 1, 334, [387], [394], [400], & [402]. 1737; L., Meth. Sex. Gen. Pl. 5, 17--19, 89, 90, 94, 111, [275], [288], [300], & [304]. 1737; L., Gen. Pl., ed. 2, 12, 26, & [549] (1742) and ed. 3 ["2"], 10 & [433]. 1743; Seguier, Pl. Veron. 1: 312. 1745; L., Gen. Pl., ed. 4, 10 & [463]. 1752; L., Sp. Pl., ed. 1, pr. 1, 1: 18 & 20. 1753; L., Gen. Pl., ed. 5, pr. 1, 12, [504], [511], [518], & [521]. 1754; Seguier, Pl. Veron. Suppl. 142. 1754; J. Hill, Brit. Herb. 356 & [536]. 1756; Kalm, Resa Nor. Am. 2: 248. 1756; Russell, Nat. Hist. Aleppo, ed. 1, 40. 1756; Kalm, Beschreib. Reise Nörd. Am. 2: 267. 1757; L., Syst. Nat., ed. 10, 2: 851--852. 1759; Scop., Fl. Carniol., ed. 1, 473 & 600. 1760; L., Gen. Pl.,